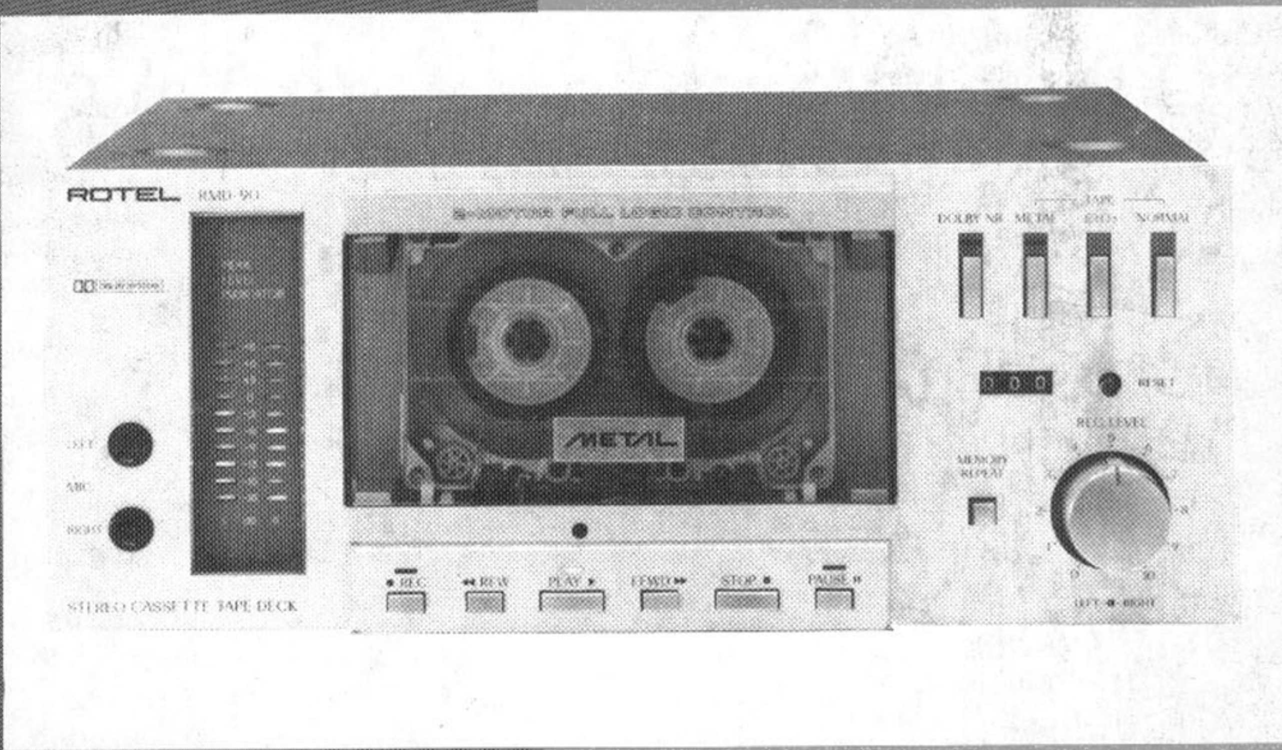
owner's manual



Quality. Uncompromised.

ROTEL®

RMD-90

STEREO MICRO CASSETTE DECK

WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE

Write your SERIAL NUMBER here.

The number is located near the name plate on the rear panel.

ENGLISH

STEREO MICRO CASSETTE DECK RMD-90

INTRODUCTION

We at Rotel want to thank you for purchasing our audio product.
Rotel audio products are designed to use the latest electronic technology, and they incorporate our long experience as a specialist manufacturer of audio equipment. We are confident that you will find satisfaction in the high quality sound and top performance, and that you will find pleasure in the functional beauty achieved through human-engineering concept.
Before starting operation, please read this instruction manual thoroughly and acquaint yourself with the proper mode of using the unit and all its connections.
We hope you will enjoy top-notch performance for many years to come.

INSTALLATION

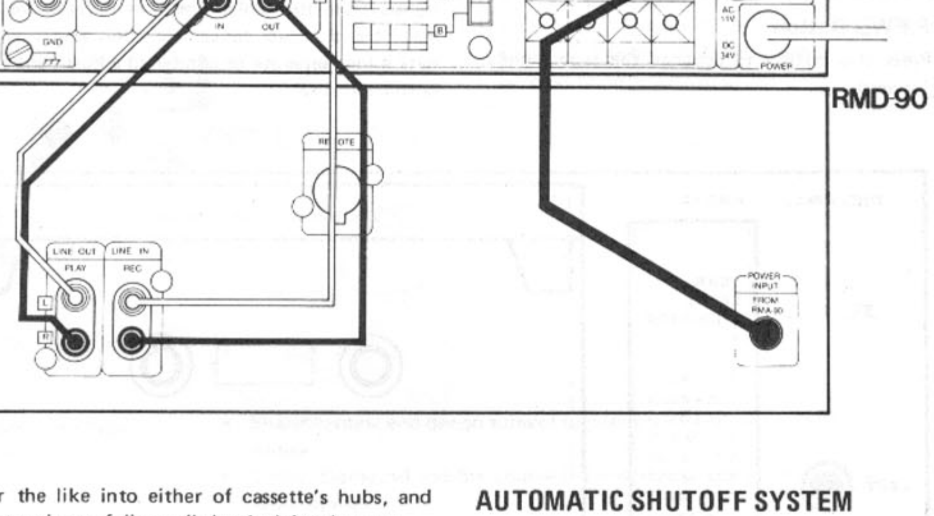
Be sure to place the unit in a level and flat place where it is free from humidity, vibration, high temperature and not exposed to direct sunlight. Be careful not to place the unit in a highly enclosed place such as near a wall or on a bookshelf. A poor ventilation will cause undesirable effects to the unit.

POWER SUPPLY

The RMD-90 is designed to receive power only through the special power supply socket on the rear panel of the integrated amplifier RMA-90. Plug the power cord of the RMD-90 into the power supply socket of the RMA-90. Never attempt to connect the RMD-90 power cord to a wall outlet or convenience outlet in other audio components.

CONNECTION TO INTEGRATED AMPLIFIER

Using the two accompanying pairs of RCA pin cords, connect LINE IN and OUT terminals on the back of deck with TAPE MONITOR terminals of the amplifier. Make sure LINE IN terminals are connected to TAPE MONITOR OUT terminals, and LINE OUT terminals to TAPE MONITOR IN terminals. Be sure to match L (left) and R (right) terminals of the components. To make correct connections, use cords with white plugs for left channel connections, and cords with red plugs for right channel connections.

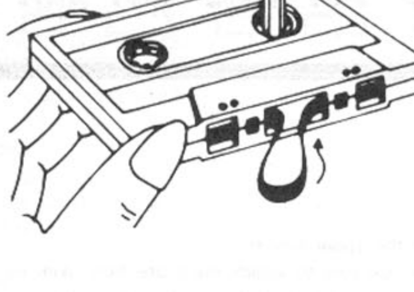


CASSETTE TAPES

- To prevent possible trouble with the transport mechanism, use of large size cassette tapes, such as C-120, is not recommended.
- Handle cassette tapes with care. Keep them away from heat, circulating dust, or a magnetic field (e.g. on the TV set).
- Each cassette tape has safety tabs on its back edge to prevent accidental re-recording. The tabs are provided for both sides of cassette tape. You cannot record on the side whose tab has been removed. The tab can be removed



with a screwdriver, etc. If you wish to record on the side with no tab, place a piece of adhesive tape, etc. over the opening where the tab has been, then you can record.
- A loosened tape may cause trouble in playback or recording. Check the tape before loading it into the deck. If it is slack, insert a pencil or the like into either of cassette's hubs, and rotate it carefully until the slack is taken up.



AUTOMATIC SHUTOFF SYSTEM

To protect the RMD-90 motor and transport mechanism against unnecessary wear, an automatic shutoff device has been built into the unit. When either end of tape is reached in play, record, fast-forward, or rewind mode, the motor and mechanism will automatically shut off, disengaging the present mode.

SWITCHES AND CONTROLS

(1) Microphone Jacks

When making live recording with stereo microphones, insert the microphone plugs into these jacks. Make sure the right-hand microphone is connected to the right channel jack, and the left-hand microphone to the left channel jack. Be sure to unplug the microphones when recording from other sources.

(2) Peak Level Indicator

Gives instantaneous display of recording or playback level for both left and right channels. Each bank of ten LEDs directly shows levels from −18dB to +8dB.

(3) Cassette Controls

REC Button

To record, press this and PLAY button. The deck is now in the recoring mode, and the tape should be winding. The LED indicator above the button glows during recording.

REW Button

For rapid tape rewind, press this button.

PLAY Button

Press this button to start the cassette for playback of recorded tape. The LED indicator provided above the button will glow.

F.FWD Button

Press this button to advance the tape rapidly forward.

STOP Button

Press this button to stop the tape in any mode: record, playback, rewind, or fast-forward. This button will disengage any transport mode currently engaged.

PAUSE Button

Press this button to stop the tape temporarily during recording or playback. When this button is pressed, the LED indicator provided above the button glows. Pressing the button a second time will restart the tape in the interrupted mode.

(4) Memory Repeat Button

This button is used when you wish to repeat playback of a specific section. Depress the button, and the unit memorizes "000" position on the tape counter. If you press the REW button in this state, the tape will rewind to the "999" position on the counter, and it will then start replay from there. If the tape comes to the end while in recording or playback, it will rewind to "999" position automatically, and then playback starts,

In normal circumstances, leave the button in released (OFF) position.

(5) Recording Level Control

Used to control the recording level of incoming signals from turntable, tuner, or microphones, etc. This is a dual concentric knob which permits either separate or combined adjustment of both channels.

(6) Tape Counter And Reset Button

The three-digit tape counter indicates the amount of tape travel. Push the reset button to set the counter to "000". This counter is convenient in finding the beginning of a specific section of the tape or checking the amount of tape remaining on the cassette.

(7) Tape Selector

Used to select the appropriate recording bias and playback equalization, according to type of cassette tape used. Use the METAL button for metal particle tape, the SPECIAL button for chromium dioxide tape, and the NORMAL button for normal tape. When the METAL button is depressed, the LED indicator above the button will glow. See TAPE SELECTOR SETTING GUIDE for details of different brands of cassette tapes and their proper setting positions.

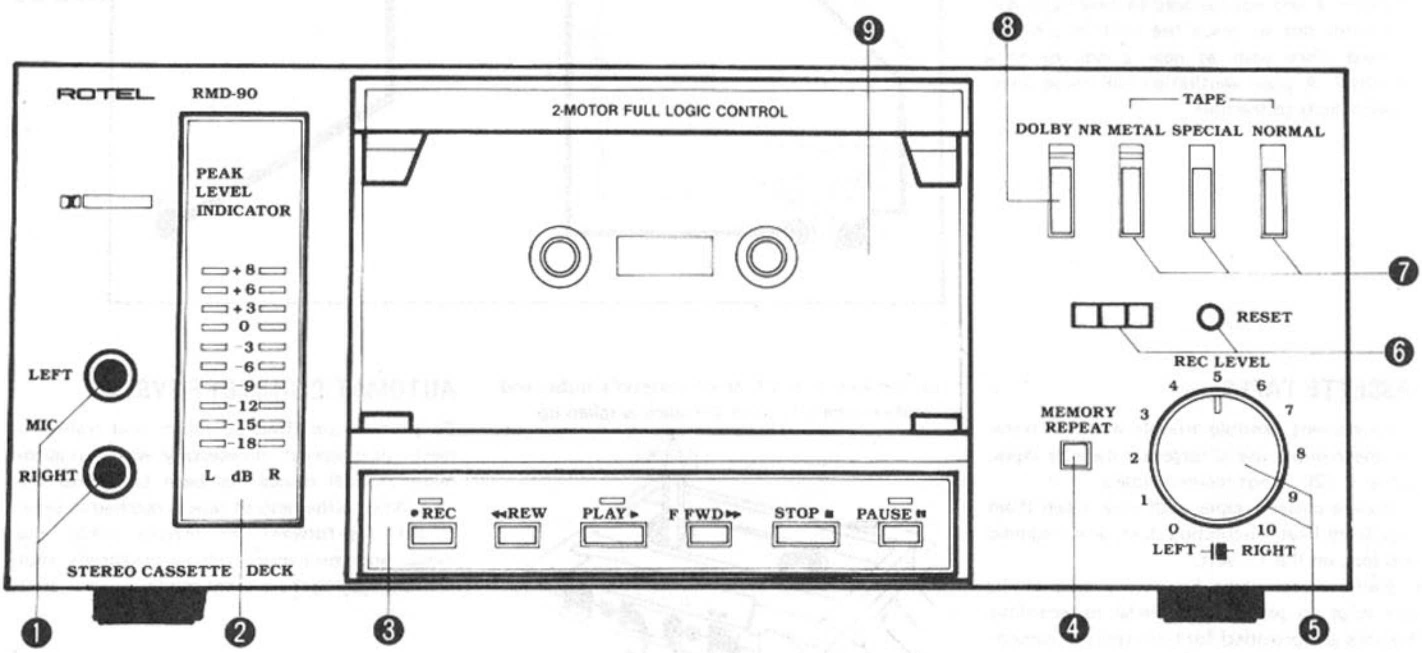
(8) Dolby NR Switch

Depress this button to switch in the built-in Dolby NR circuit provided for high-frequency range noise reduction when you wish to record or play back through Dolby NR circuit.

When this button is depressed, the LED indicator above the button will glow.

(9) Tape Holder

Cassette tape is loaded into this holder.



BEFORE RECORDING OR PLAYBACK

1. Be certain that power connection and connection with amplifier are properly made.

2. When recording, be sure the safety tabs on the cassette tape are not removed.

3. Be sure to unplug the microphones from the deck when recording from other sources.

4. To load the cassette tape, hold it by the sides and fit the top under the upper projecting section of the cassette holder. Then gently push in the bottom portion of the cassette tape so that the two catches on the lower holder secure the cassette snugly. To unload the cassette, hold it by the sides, and first detach it from the lower holder by pulling gently. Then detach from the upper holder.

5. Be sure to attach the protection cover to the tape holder when the unit is not in use.

6. The RMD-90 is turned on or off by the power switch on integrated amplifier RMA-90, to which the power cord of the RMD-90 should be connected.

RECORDING

- When recording with microphones, the microphone plugs must be inserted properly into the left and right microphone jacks.
- When you record from line source, be sure that the microphone plugs are disconnected from the microphone jacks of RMD-90.

Prepare the tuner or turntbale for playing. Then play the equipment as appropriate for recording.

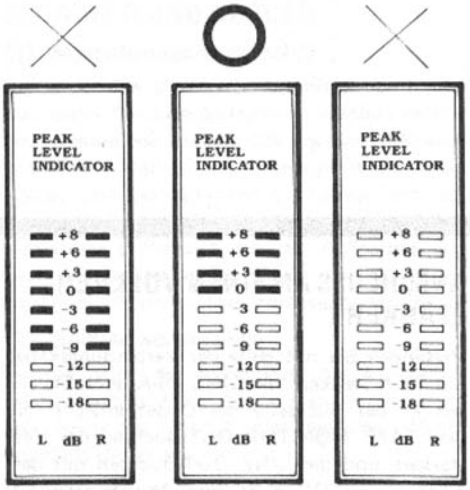
1. When you wish to record using Dolby NR circuit, set the Dolby NR switch to ON.

2. Set the tape selector according to the type of tape used.

3. Turn on amplifier RMA-90.

4. Press PAUSE button, then simultaneously press REC and PLAY buttons.

5. Adjust the recording level for left and right channels with Reocrding Level control so that the level indicator readings do not exceed 0 dB position frequently, and when they do, only very briefly.



6. After adjusting recording level, press the PAUSE button again to put the unit into recording mode and to start the tape.

7. Carefully watch the level indication during recording as well. PAUSE button may be used to temporarily halt recording.

8. Press STOP button when recording is finished. When the end of the tape is reached, the recording mode will automatically disengage and tape stops.

PLAYBACK

1. When using Dolbyized tapes, set the Dolby NR switch to ON. For non-Dolbyized tapes, set the switch to OFF.

2. Set the tape selector to match the type of tape used.

3. Turn on power switch on RMA-90, keeping volume control set to minimum.

4. Press PLAY button and playback will begin.

5. To momentarily halt playback, press the PAUSE button. When you wish to end playback, press the STOP button. When the tape comes to an end, it stops automatically and playback mode is disengaged.

Playback Using Memory Repeat Function

The memory-repeat feature is convenient when you wish to repeat playback of a specific section of the recorded tape, or to listen to the sound you have just recorded from its exact beginning.

1. Before starting playback or recording, set the tape counter to "000" by pressing the reset button.

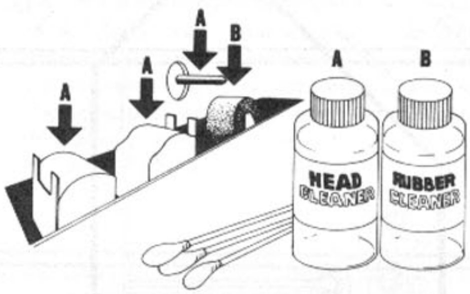
2. Depress Memory Repeat button.

3. Start playback or recording.

4. After you have finished playback or recording, press REW button. The tape starts rewind and continues until the counter reaches "999", then stops, so that playback begins automatically from a point slightly before the beginning of the section you have played back or recorded. If the end of the tape is reached in playback or recording, the automatic repeating function will operate without pressing the REW button.

HEAD CLEANING

The most frequent cause of failure to record in one or both channels, or of weak, distorted sound, is dirty tape heads and capstan. So, be sure to clean the heads, capstan, pinch roller and tape guides as often as possible using a "Q" tip dipped in ordinary rubbing alcohol or commercial liquid tape head cleaner. Thoroughly wipe the surface of the heads, cpastan, roller and tape guide.



HEAD DEMAGNETIZING

The tape heads, capstan and tape guides gradually become magnetized with use, which will eventually affect the sound quality of your tapes. Demagnetizing should follow cleaning, but need not take place as often as cleaning, once after every 20 to 30 hours of use should suffice.

A demagnetizer may be purchased at a moderate cost from any dealer carrying tape recording accessories. Follow the instruction supplied with the demagnetizer.

Caution: Be sure to turn off the unit before you attempt demagnetizing.

The rear panel of the unit is provided with a socket for connecting the Rotel Remote Control Center RMR-90 which allows wireless-remote-control of the unit.

SPECIFICATIONS

Heads: Rec/Play	High B permalloy laminated type	
Erase	Double gap ferrite core	
Track	4-track/2-channel	
Tape Speed	4.8cm/sec.	
Motor	Electronic DC Governor DC motor (reel)	
Wow and Flutter	0.10% (DIN)	
	0.05% (WRMS)	
Distortion (REC/PB, 400Hz)	0.9%	
Frequency Response (−20dB)	Normal, LH	30 to 14,000Hz±3dB
	Chromium	30 to 15,000Hz±3dB
	Metal	30 to 16,000Hz±3dB
Signal-to-Noise Ratio (WTD. 0dB=580mV, Chromium)	Dolby NR in:	55dB
	Dolby NR out:	63dB
Input Sensitivity/Impedance	MIC	0.45mV/10 kohms
	LINE	45mV/27 kohms
Output Level/Impedance: LINE	410mV/2.2 kohm	
Fast Wind Time (C-60)	90 seconds	
Tape Selector	BIAS	EQUALIZER
Normal, LH	100%	120µs
Chromium	125%	70µs
Metal	185%	70µs

MISCELLANEOUS

Power Requirement	Power supplied from the amplifier RMA-90
Dimensions (Overall)	279(W) x 115(H) x 262(D)mm/ 11" x 4-17/32" x 10-5/16"
Weight (Net)	3.9kg/8.58 lbs

- Specifications and design subject to possible modification without notice.
- Dolby, Dolbyzed and the double-D symbol are trade marks of Dolby Laboratories.

  Noise reduction system manufactured under license from Dolby Laboratories.

TAPE SELECTOR SETTING GUIDE

TDK	OD, AD	NORMAL
FUJI FILM	RANGE 6	NORMAL
SONY	AHF, BHF	NORMAL
MAXELL	UD, XL-I	NORMAL
SCOTCH	MASTER 120	NORMAL
TDK	SA	SPECIAL
FUJI FILM	RANGE 4X	SPECIAL
SONY	JHF	SPECIAL
MAXELL	XL II	SPECIAL
SCOTCH	MASTER II	SPECIAL
BASF	SCR	SPECIAL
TDK	MA	METAL
FUJI FILM	SUPER RANGE	METAL
SONY	METALLIC	METAL
MAXELL	MX	METAL
SCOTCH	METAFINE	METAL